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COLONY OF THE GAMBIA.

Annual Report of the Department of Agriculture, for the year ending 31st May, 1942.

For the third year, it is necessary for this report to be presented in an abridged form; full meteorological statistics are omitted and figures for production confined to those of the year under review.

SECTION I.

Agriculture in the Colony and Protectorate.

Meteorology.

1. *Weather.*—Rainfall for 1941 was most unsatisfactory. In the Middle and Upper River, the total fall was only just below average but distribution was very uneven and in the Lower River, the total fall was some 16 inches short of the average. All areas suffered from the early cessation of the rainy season with little or no rain in October.

Food Crops.

2. *General.*—With the complete absence of a 'hungry season' in 1941, preparations for the 1941 cropping year showed a further appreciation of the need for food production and in spite of depleted man power most areas showed an increased acreage under food crops. Unfortunately, the poor rainy season largely negatived these efforts with the result that the Protectorate instead of supplying the needs of Bathurst was only just self-supporting up to March, 1942 since when it has been necessary to send very small amounts of imported food to the larger inland wharf-towns. The sum total of these small amounts does not at present exceed 25 tons monthly and is almost solely to meet the requirements of trading and clerical staff.

3. The problem of creating self-sufficiency has been rendered more difficult by the considerable drain on able bodied males from the land. The rate of military enlistment and the demand for labourers for necessary constructional work has been heavy and must represent a considerably higher proportion of the total population than is the case in other Colonies. These facts must be borne in mind in assessing progress in the drive for increased food production.

4. *Dry Grain Crops.*—The returning popularity of 'Hungry Rice'—*Digitaria Exilis*—was most marked in the Lower River Provinces. Very little labour is required for the cultivation of this crop and its early maturing quality, averaging 100 days from sowing to harvest, is of value in spacing the harvest period.

5. The late grain crops, both bulrush millet and sorghum, suffered severely from the lack of rain in October, these crops depending upon the normal three or four falls in that month to ensure complete maturity. The resulting position was that in a few areas the crop failed and in others average yields were halved.

6. *Rice*—The season also adversely affected the rice crop. In parts of the North Bank Province and in some other areas where the rice was dependent on rainfall and surplus water from localised catchment areas, there was complete crop failure. Only the early and medium maturing rices produced an average crop in those areas subject to annual flooding—the river flood in the year under review being heavier than normal.

7. *Miscellaneous Crops.*—Cassava, sweet potatoes and cowpeas continued to gain in popularity but increased production of these minor crops was more than swamped by increased demand.

The growing of pumpkins as an interplanted wet season crop is becoming popular. There is a large market for this vegetable to meet military requirements. It has a great advantage in that it travels well and may also be successfully stored for periods up to three months without any deterioration.

8. *Dry Season Garden Crops.*—The increasing and seemingly insatiable demand for fruit and fresh vegetables gave further encouragement to dry season garden work. It is difficult to assess production but at the height of the season, one contractor alone was supplying about 800 lbs. fresh vegetables weekly to the R. A. S. C.

Export Crops.

9. *Groundnuts.*—Purchases for export during the 1941–42 season only just reached 18,000 tons of undecorticated nuts being the lowest crop on record since groundnuts have been the staple export of the Gambia. Apart from the poor growing season, the drop was variously due to a marked decline in the number of strange farmers, the success of the campaign to grow more food crops, the loss of man-power mentioned above and the development of oil extraction as a local industry. In addition, rigid frontier control prevented any nuts coming in from neighbouring territories.

10. The price, which was again controlled by the United Kingdom Government, remained staple throughout the season at 1/1½d per bushel of 28 lbs. undecorticated nuts at Bathurst with a flat rate of 1/– per bushel at all other buying stations.

11. The cleanliness of the crop as marketed was well maintained, the percentage of dust, foreign matter and excess shell falling well within the commercial allowance of 2 per cent.

12. The following quantities of groundnuts were exported during the calender year 1941:—

Undecorticated nuts—31,411 tons	valued	at	£187,458
Decorticated nuts — 8,907 „		„	£ 86,098
			£273,556

13. *Palm Kernels.*—Average production was maintained with a fixed price of 1/4½d per bushel of 28 lbs. at Bathurst rising to 1/7½d at the close of the season in December 1941. The following figure for export during 1941 does not reflect true production as a balance of the crop remained unshipped at the end of the year:—

Palm Kernels—482 tons valued at £3,334.

14. *Beeswax.*—Trade continued in this commodity with the low buying price of 2d per lb. rough wax, the percentage of rough wax to clean wax averaging from 17 per cent to 22 per cent 69,918 lbs with a declared value of £2,376 were exported during the year.

15. *Hides and Skins.*—None were exported during the year, the prices offered by the firms totally failing to compete with the internal trade.

Pests and Diseases.

16. There was almost complete freedom from pest and disease damage during the year.

17. *Locusts.* After an absence of three years, a few adult swarms were reported in the Protectorate during the last week of December, 1941. Isolated damage to one or two dry season gardens occurred but in general the swarms were flying high in an easterly directions. The locusts were suspected to be the Desert Locust but identification was not confirmed.

SECTION II.

Work of the Department of Agriculture.

18. A summary of the approved statement of policy for the department is repeated herewith:—

A. To obtain self-sufficiency in the matter of food production coupled with an improvement in nutrition by the provision of a balanced and more varied diet.

B. The maintenance and improvement of soil fertility and conservation of the soil by the utilization of a balanced system of crop and animal husbandry.

C. Development of export crops and animal products.

D. Improvement in the preparation and marketing of agricultural produce including produce inspection.

E. Agricultural education and the training of agricultural staff.

19. Work on the lines described in last year's report has been intensified with particular emphasis being laid on Sections A and E. Reference to much of this work is not included in the paragraphs below.

Food Production.

20. *Rice.*—The testing and distribution of improved strains has continued and to meet seed requirements in those areas where the crop completely failed, a quantity of G.E.B. 24 seed rice is being obtained from Sierra Leone. This variety has already proved its superiority and is popular with the native farmer. Apart from improved seed, it was decided to obtain expert opinion upon other methods of increasing production such as water control through irrigation and drainage and improved methods of culture, and at the end of the period under review, Mr. C. J. Rae, Irrigation and Drainage Engineer and Mr. G. M. Roddan, Agricultural Officer, both of Sierra Leone Department of Agriculture, were expected to arrive in the Gambia and advise accordingly.

21. *Dry Grain Crops.*—The programme of work at the Yoroberi-kunda Experimental Farm includes tests on the various grain crops and two experiments were concluded on the early grains. The finger millet Digitaria exilis, has over a period of three years averaged 587 lbs. threshed grain per acre whereas in a separate experiment covering the same years, early bulrush millet and early sorghum averaged only 172 lbs. and 155 lbs. respectively. The latter includes a crop failure in 1941 but these crops are also very susceptible to bird damage. Digitaria has proved the best early grain crop for fieldscale planting, it shows little need for or response to manuring and there are indications that fertility can be maintained by including it in a simple two-year rotation with groundnuts.

22. *Pulses.*—Distributions of cowpea, green gram and pigeon pea were adversely effected by the poor growing season. The conclusion of the cowpea yield trial proved the local variety vastly superior to the two Nigerian introductions Nos. 61 and 63.

23. *Root crops.*—Experiment has shown that sweet potatoes cannot be regarded as a field crop in the greater part of the Protectorate, it is suitable however as a compound crop or for

localised swamp planting towards the end of the rains. Of the introduced varieties, Barbados White is the only one that competes with the local type.

24. *Vegetable Production.*—Demonstration garden areas and the distribution of suitable varieties of vegetable seed and seedlings coupled with the greatly increased demand resulted in much valuable progress. Guaranteed prices varying according to the class of vegetable and arrangements for the regular collection of produce from chosen centres must be adopted throughout the Protectorate to ensure maximum production and schemes have been formulated to put this into practice. Such a scheme was started in the Gunjur area with very favourable results.

25. Advice as to choice of sites, cropping etc., has been given in connection with the establishment of military gardens and it has also been possible to give some assistance with the supply of seeds and seedlings.

26. *Vegetable Seed Production.*—The threatened shortage of seed from overseas sources may prove a limiting factor to production. To help meet this contingency, funds have been made available for increased seed production at the department's nurseries at Cape St. Mary. Work is concentrated on the known producers of seed such as tomatoes and lettuce; at the same time we are attempting by experiment to obtain seed from the other types of vegetable in most demand. New Zealand spinach has set seed freely and some seed has been obtained from Chinese cabbage.

27. As an additional means of compensating for the shortage of temperate climate vegetables, we are pushing production of such indigenous and acclimatised vegegtables as okra, garden egg and spinach (Amaranthus spp. etc.).

28. *Fruit Trees.*– Distribution of fruit trees was again made on a considerable scale. A further 6,000 seedling orange trees will be available for distribution during the 1942 rains.

Local Industries.

29. *Edible Oil.*—The local extraction of groundnut oil is being encouraged to meet the demands of increased population and to replace butter substitutes and lard which are now prohibited imports. To this end, Government imported twenty hand screw presses which have been taken up by local producers and the Marine Department are assisting by turning out screws which can be built into presses of local construction.

30. *Soap Manufacture.*—As a wartime measure, the manufacture of soap is being encouraged as a cottage industry. Simple instructions entailing the use of locally obtainable utensils have been drawn up and Government issues caustic soda on repayment to approved applicants.

31. *Government Piggeries.*—At the end of the period under review, arrangements had been completed for the establishment of a piggery at Cape St. Mary and the foundation stock of twenty sows from the Cameroons was en route. Boars and further sows are expected from the same source and in addition, the Sierra Leone Government are supplying two ¾ bred Berkshire boars. It is intended to establish a second piggery at Bulok in the Jola country where in contrast to Cape St. Mary, the pigs may be kept under semi-free range conditions. The two-fold purpose of the piggeries is the breeding of improved stock for distribution to recognised pigkeepers, mainly the Jola of the South Bank Province and the production of pork and/or bacon from surplus stocks.

Maintenance Of Fertility.

32. The main experimental farm at Yoroberi-kunda has continued to be run on mixed farming lines. There is every indication that fertility is being maintained, the drop in the yield of the main grain crops during the year under review being presently attributed to the early cessation of the rains.

33. It will be possible to test the value of pigeon pea as a productive fallow crop during the coming season.

34. *Cattle.*—The small breeding herd of cattle has been maintained at Yoroberi-kunda. The figures below give an indication of the capabilities of Gambian stock. The figures are certainly low but the cattle represent average native types and were not subject to intensive feeding. The average milk yield per cow *surplus* to requirements of the calf was 541·5 lbs over an average period of 319 days in milk, the figure for milk per day between calves being 1·014 lbs.

35. *Clarified Butter Fat.*—Experiments have been commenced with the preparation of this product from fresh cream. In preliminary trials, the output by weight of clarified butter fat to milk has been 3·31 per cent.

36. The determination of a system of cropping for a mixed farming unit is being investigated on our demonstration farms and some adjustment may still be necessary between the balance of food and export crops.

Export Crops.

37. *Groundnuts.*—Yields at Yoroberi-kunda showed an average fall of 14 per cent over those of 1940. The new introductions were

included in the yield trial which resulted as follows:—

Sir Charles Variety	—	1147·2lbs.	undecorticated	nuts	per	acre.
Basse	„ —	1150·4	„	„	„	„
Kanno 38	„ —	1172·8	„	„	„	„
Castle Cary	„ —	1195·2	„	„	„	„
Samaru	„ —	1200	„	„	„	„

None of the differences were statistically significant.

38. Observation trials with castor oil plants and beniseed were carried out at Yoroberi-kunda. The former gave the disappointing yields of 72 and 52 lbs. per acre shelled seed for the small and large seeded varieties respectively, whilst benniseed gave the satisfactory yield of 450 lbs. per acre.

Agricultural Education.

39. The all important need for trained African staff in future development work has been stressed and it is gratifying to report that financial assistance from the Home Government has enabled us to commence the implementation of the following two items of the approved policy of this department:—

> Section E (b) (ii) — Provision of facilities for the vocational training of probationer staff at the Yoroberi-kunda Experimental Farm.
>
> and
>
> Section E (b) (iii) — Provision for the higher training of selected Agricultural Assistants, one having taking up a scholarship to the Agricultural College at n'Jala, Sierra Leone and the other to the Agricultural School at Samaru, Nigeria.

40. The course at Yoroberi-kunda will be largely practical but a school building constructed of local materials has been erected which will serve both as a lecture room and a common room for the learners, six of whom have been appointed to date.

41. Scholarships have been granted to Mr. R. J. Lloyd, Agricultural Overseer who proceeded to Nigeria in March, 1942 to undertake a course in mixed farming methods at Samaru and to Mr. T. T. Morrison, Agricultural Assistant, who left for Sierra Leone in January, 1942 to take the course in general Agriculture at Njala.

42. *Dry Season Produce Shows.*—These shows continue to prove their instructional value in indicating to the people, many of whom are only starting the dry-season cultivation of vegetables, not only what can be grown but also the standards of quality that can be achieved, standards achieved by the African farmer himself. They are also a valuable medium for farmers to meet each other and the staff of the Agricultural Department on an occasion very suitable to the discussion of matters of general agricultural interest.

43. A programme of five shows, covering the four provinces of the protectorate, were held with a total of 1,121 exhibitors staging 2,001 exhibits.

44. In addition to classes for vegetables and fruit, other large classes were those for 'Prepared Food Products' and for Exhibits of General Interest'.

45. The continued assistance of the Gambia Horticultural Society in connection with these shows is greatly appreciated.

46. *Staff.*—Mr. J. Gordon, Agricultural Officer, Gold Coast, arrived in the Gambia on secondment in November, 1941, to fill the vacancy of Agricultural Superintendent.

47. Two temporary vacancies caused by the absence of African staff on scholarship courses remain unfilled owing to the lack of suitable applicants.

SECTION III

Omitted.

SECTION IV.

48. *Legislation.*—None was effected during the period under review.

E. W. LEACH,

Senior Agricultural Superintendent.

28th July, 1942.

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